

WE CLAIM:

1. A method for treating a vision ^{impairment} disorder, improving vision, treating memory impairment, or enhancing memory performance in an animal, which comprises administering to said animal an effective amount of a ~~pipecolic acid derivative~~ ^{compound}.

2. The method of claim 1, wherein the ~~pipecolic acid derivative~~ ^{compound} has an affinity for an FKBP-type immunophilin.

3. The method of claim 2, wherein the FKBP-type immunophilin is FKBP-12.

4. The method of claim 1, wherein the ~~pipecolic acid derivative~~ ^{compound} is immunosuppressive or non-immunosuppressive.

5. The method of claim 1, wherein the vision ^{impairment} ~~disorder~~ ^{is derived from} is selected from the group consisting of: visual impairments; orbital disorders; disorders of the lacrimal ^{apparatus} ~~apparatus~~; disorders of the eyelids; disorders of the conjunctiva; disorders of the cornea; cataract; disorders of the uveal tract; disorders of the retina; disorders of the optic nerve or visual pathways; free radical induced eye disorders and diseases; immunologically-mediated eye disorders and diseases;

eye injuries; and symptoms and complications of eye disease, eye disorder, or eye injury.

Sub
B2

5 6. The method of claim 1, wherein the pipecolic acid derivative is Way-124,666.

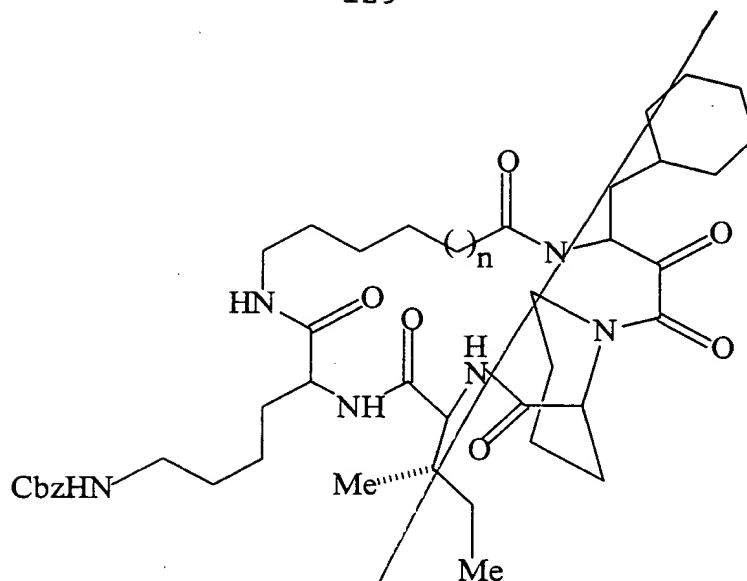
a 7. The method of claim 1, wherein the ^{compound}~~pipecolic~~
a ~~acid derivative~~ is rapamycin.

10 a 8. The method of claim 1, wherein the ^{compound}~~pipecolic~~
a ~~acid derivative~~ is Rap-Pa.

a 9. The method of claim 1, wherein the ^{compound}~~pipecolic~~
a ~~acid derivative~~ is SLB-506.

15 a 10. The method of claim 1, wherein the ^{compound}~~pipecolic~~
a ~~acid derivative~~ is selected from the group consisting of:

SECRET



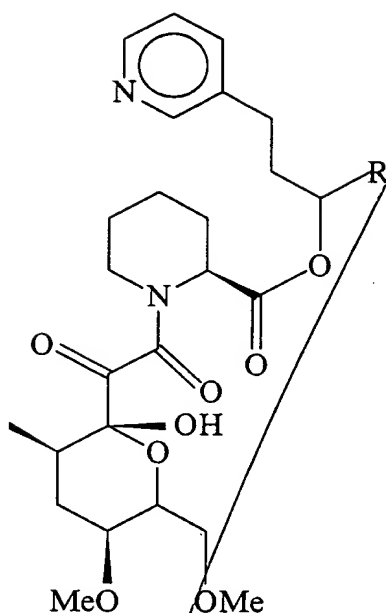
wherein n is 1; 2; or 3;

4-(4-methoxyphenyl)butyl (2S)-1-[2-(3,4,5-trimethoxyphenyl)acetyl]hexahydro-2-pyridinecarboxylate;

4-(4-methoxyphenyl)butyl (2S)-1-[2-(3,4,5-trimethoxyphenyl)acryloyl]hexahydro-2-pyridinecarboxylate;

4-(4-methoxyphenyl)butyl (2S)-1-[2-(3,4,5-trimethoxyphenyl)propanoyl]hexahydro-2-pyridinecarboxylate;

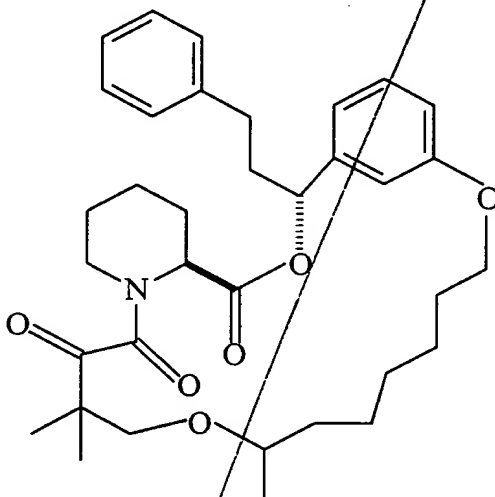
4-(4-methoxyphenyl)butyl (2S)-1-[2-oxo-2-(3,4,5-trimethoxyphenyl)acetyl]hexahydro-2-pyridinecarboxylate;



- 3-cyclohexylpropyl (2S)-1-(3,3-dimethyl-2-oxopentanoyl)hexahydro-2-pyridinecarboxylate;
 3-phenylpropyl (2S)-1-(3,3-dimethyl-2-oxopentanoyl)hexahydro-2-pyridinecarboxylate;
 3-(3,4,5-trimethoxyphenyl)propyl (2S)-1-(3,3-dimethyl-2-oxopentanoyl)hexahydro-2-pyridinecarboxylate;
 (1R)-2,2-dimethyl-1-phenethyl-3-butenyl (2S)-1-(3,3-dimethyl-2-oxopentanoyl)hexahydro-2-pyridinecarboxylate;
 (1R)-1,3-diphenylpropyl (2S)-1-(3,3-dimethyl-2-oxopentanoyl)hexahydro-2-pyridinecarboxylate;
 (1R)-1-cyclohexyl-3-phenylpropyl (2S)-1-(3,3-dimethyl-2-oxopentanoyl)hexahydro-2-pyridinecarboxylate;
 (1S)-1,3-diphenylpropyl (2S)-1-(3,3-dimethyl-2-oxopentanoyl)hexahydro-2-pyridinecarboxylate;
 (1S)-1-cyclohexyl-3-phenylpropyl (2S)-1-(3,3-dimethyl-2-oxopentanoyl)hexahydro-2-pyridinecarboxylate;

(22aS)-15,15-dimethylperhydropyrido[2,1-c][1,9,4]dioxazacyclononadecine-1,12,16,17-tetraone;

(24aS)-17,17-dimethylperhydropyrido[2,1-c][1,9,4]dioxazacyclohenicosine-1,14,18,19-tetraone;

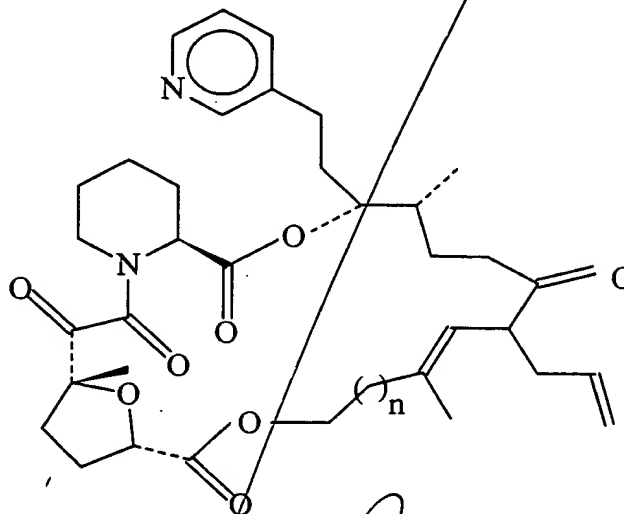


(3R,4R,23aS)-8-allyl-4,10-dimethyl-3-[2-(3-pyridyl)ethyl]-1,3,4,5,6,7,8,11,12,15,16,17,18,20,21,22,23,23a-octadecahydro-14H-pyrido[2,1-c][1,10,4]dioxazacycloicosine-1,7,14,17,18-pentaone;

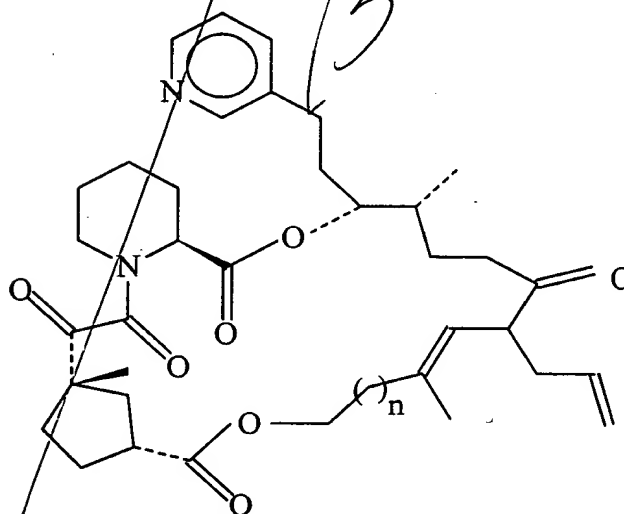
(3R,4R,24aS)-8-allyl-4,10-dimethyl-3-[2-(3-pyridyl)ethyl]-1,3,4,5,6,7,8,11,12,14,15,16,17,18,19,21,22,23,24,24a-icosahydropyrido[2,1-c][1,11,4]dioxazacyclohenicosine-1,7,14,18,19-pentaone;

(3R,4R,25aS)-8-allyl-4,10-dimethyl-3-[2-(3-pyridyl)ethyl]-1,3,4,5,6,7,8,11,12,15,16,17,18,19,20,22,23,24,25,25a-icosahydro-14H-pyrido[2,1-c]

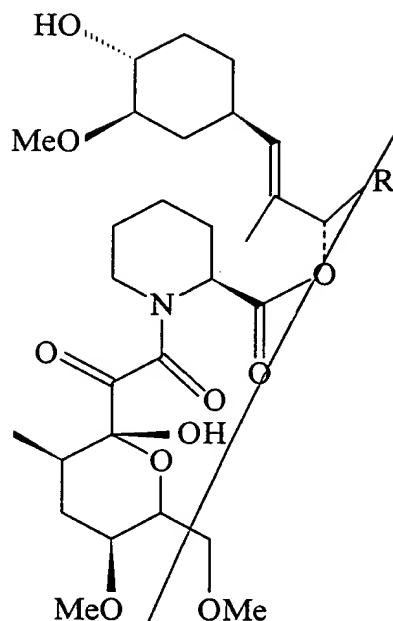
[1,12,4]dioxazacyclodocosine-1,7,14,19,20-pentaone;



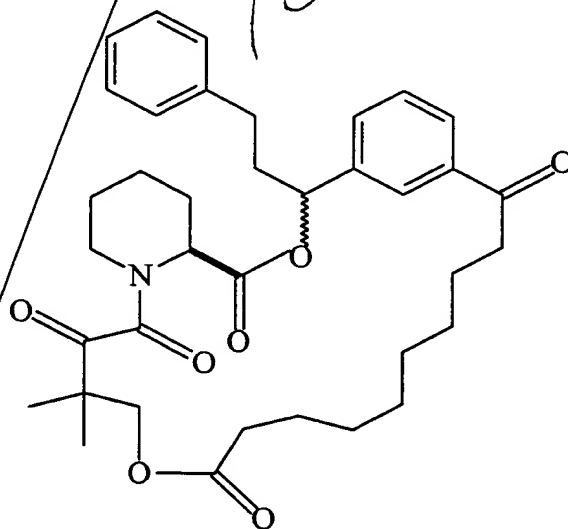
wherein n is 1; 2; or 3;



wherein n is 1; 2; or 3;



(1R)-1-(3-benzoylphenyl)-3-phenylpropyl (1R)-2-(3,3-dimethyl-2-oxopentanoyl) cyclohexane-1-carboxylate;
 (1R)-1-[3-(diallylcarbamoyl)phenyl]-3-phenylpropyl
 (1R)-2-(3,3-dimethyl-2-oxopentanoyl) cyclohexane-1-carboxylate;



ethyl 1-(2-oxo-3-phenylpropanoyl)-2-piperidinecarboxylate;

ethyl 1-pyruvoyl-2-piperidinecarboxylate;
ethyl 1-(2-oxobutanoyl)-2-piperidinecarboxylate;
ethyl 1-(3-methyl-2-oxobutanoyl)-2-
piperidinecarboxylate;
ethyl 1-(4-methyl-2-oxopentanoyl)-2-
piperidinecarboxylate;
ethyl 1-(3,3-dimethyl-2-oxobutanoyl)-2-
piperidinecarboxylate;
ethyl 1-(3,3-dimethyl-2-oxopentanoyl)-2-
piperidinecarboxylate;
4-[2-(ethyloxycarbonyl)piperidino]-2,2-dimethyl-3,4-
dioxobutyl acetate;
ethyl 1-[2-(2-hydroxytetrahydro-2H-2-pyranyl)-2-
oxoacetyl]-2-piperidinecarboxylate;
ethyl 1-[2-(2-methoxytetrahydro-2H-2-pyranyl)-2-
oxoacetyl]-2-piperidinecarboxylate;
ethyl 1-[2-(1-hydroxycyclohexyl)-2-oxoacetyl]-2-
piperidinecarboxylate;
ethyl 1-[2-(1-methoxycyclohexyl)-2-oxoacetyl]-2-
piperidinecarboxylate;
ethyl 1-(2-cyclohexyl-2-oxoacetyl)-2-
piperidinecarboxylate;
ethyl 1-(2-oxo-2-piperidinoacetyl)-2-
piperidinecarboxylate;
ethyl 1-[2-(3,4-dihydro-2H-6-pyranyl)-2-oxoacetyl]-2-
piperidinecarboxylate;
ethyl 1-(2-oxo-2-phenylacetyl)-2-piperidinecarboxylate;

ethyl 1-(4-methyl-2-oxo-1-thioxopentyl)-2-piperidinecarboxylate;

3-phenylpropyl 1-(2-hydroxy-3,3-dimethylpentanoyl)-2-piperidinecarboxylate;

(1R)-1-phenyl-3-(3,4,5-trimethoxyphenyl)propyl 1-(3,3-dimethylbutanoyl)-2-piperidinecarboxylate;

(1R)-1,3-diphenylpropyl 1-(benzylsulfonyl)-2-piperidinecarboxylate;

3-(3,4,5-trimethoxyphenyl)propyl 1-(benzylsulfonyl)-2-piperidinecarboxylate;

1-(2-[(2R,3R,6S)-6-[(2S,3E,5E,7E,9S,11R)-2,13-dimethoxy-3,9,11-trimethyl-12-oxo-3,5,7-tridecatrienyl]-2-hydroxy-3-methyltetrahydro-2H-2-pyranyl)-2-oxoacetyl)-2-piperidinecarboxylic acid;

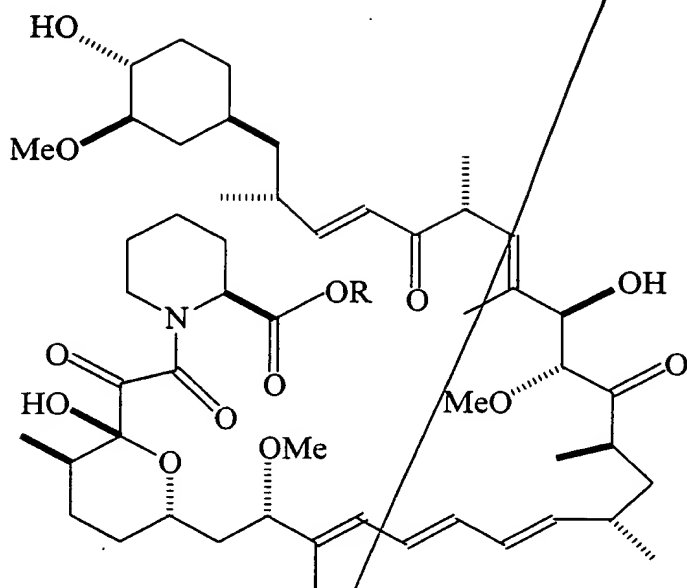
methyl 1-(2-[(2R,3R,6S)-6-[(2S,3E,5E,7E,9S,11R)-2,13-dimethoxy-3,9,11-trimethyl-12-oxo-3,5,7-tridecatrienyl]-2-hydroxy-3-methyltetrahydro-2H-2-pyranyl)-2-oxoacetyl)-2-piperidinecarboxylate;

isopropyl 1-(2-[(2R,3R,6S)-6-[(2S,3E,5E,7E,9S,11R)-2,13-dimethoxy-3,9,11-trimethyl-12-oxo-3,5,7-tridecatrienyl]-2-hydroxy-3-methyltetrahydro-2H-2-pyranyl)-2-oxoacetyl)-2-piperidinecarboxylate;

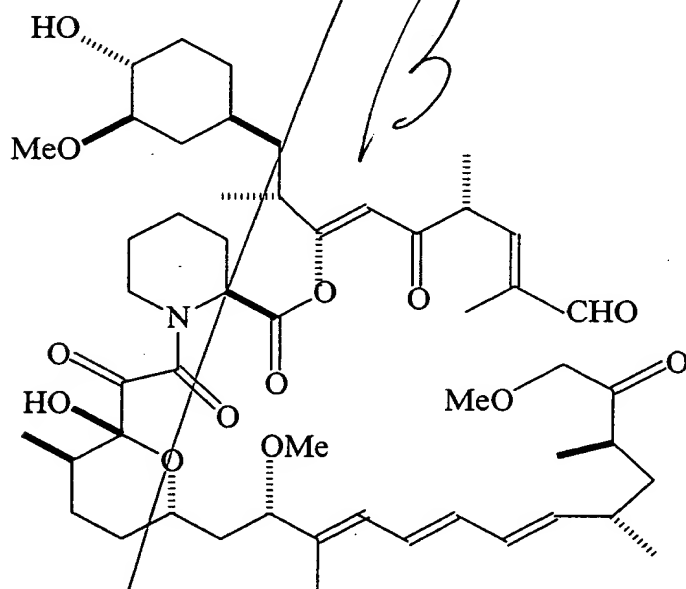
benzyl 1-(2-[(2R,3R,6S)-6-[(2S,3E,5E,7E,9S,11R)-2,13-dimethoxy-3,9,11-trimethyl-12-oxo-3,5,7-tridecatrienyl]-2-hydroxy-3-methyltetrahydro-2H-2-pyranyl)-2-oxoacetyl)-2-piperidinecarboxylate;

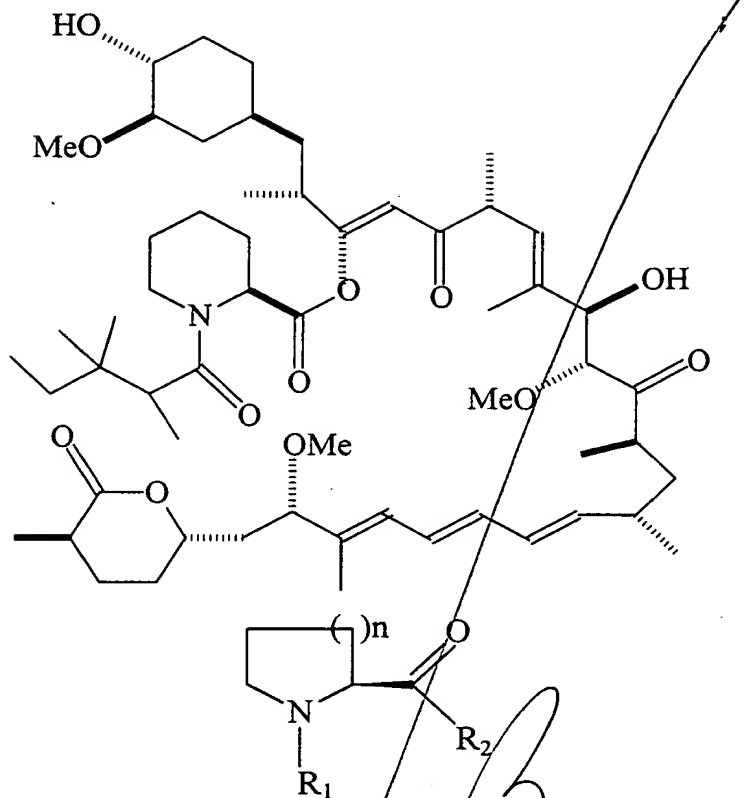
1-phenylethyl 1-(2-[(2R,3R,6S)-6-[(2S,3E,5E,7E,9S,11R)-

2,13-dimethoxy-3,9,11-trimethyl-12-oxo-3,5,7-tridecatrienyl]-2-hydroxy-3-methyltetrahydro-2H-2-pyranyl)-2-oxoacetyl)-2-piperidinecarboxylate;
(Z)-3-phenyl-2-propenyl 1-(2-[(2R,3R,6S)-6-[(2S,3E,5E,7E,9S,11R)-2,13-dimethoxy-3,9,11-trimethyl-12-oxo-3,5,7-tridecatrienyl]-2-hydroxy-3-methyltetrahydro-2H-2-pyranyl)-2-oxoacetyl)-2-piperidinecarboxylate;
3-(3,4-dimethoxyphenyl)propyl 1-(2-[(2R,3R,6S)-6-[(2S,3E,5E,7E,9S,11R)-2,13-dimethoxy-3,9,11-trimethyl-12-oxo-3,5,7-tridecatrienyl]-2-hydroxy-3-methyltetrahydro-2H-2-pyranyl)-2-oxoacetyl)-2-piperidinecarboxylate;
N2-benzyl-1-(2-[(2R,3R,6S)-6-[(2S,3E,5E,7E,9S,11R)-2,13-dimethoxy-3,9,11-trimethyl-12-oxo-3,5,7-tridecatrienyl]-2-hydroxy-3-methyltetrahydro-2H-2-pyranyl)-2-oxoacetyl)-2-piperidinecarboxylate;
N2-(3-phenylpropyl)-1-(2-[(2R,3R,6S)-6-[(2S,3E,5E,7E,9S,11R)-2,13-dimethoxy-3,9,11-trimethyl-12-oxo-3,5,7-tridecatrienyl]-2-hydroxy-3-methyltetrahydro-2H-2-pyranyl)-2-oxoacetyl)-2-piperidinecarboxylate;



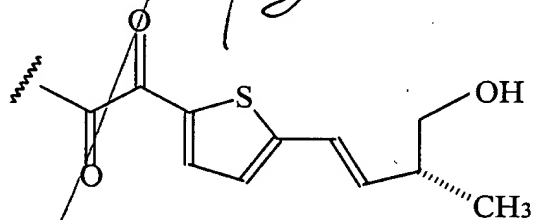
wherein R is methyl (Me); or benzyl (Bn);



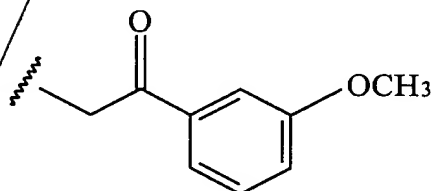


wherein

$n = 2,$
 $R_1 =$

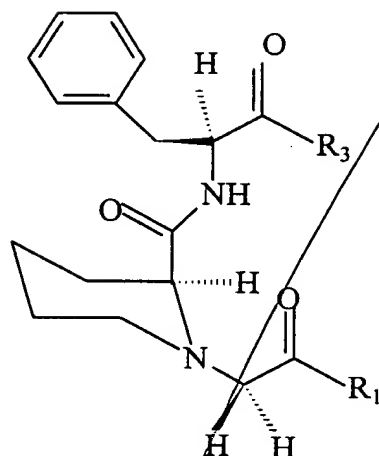


or



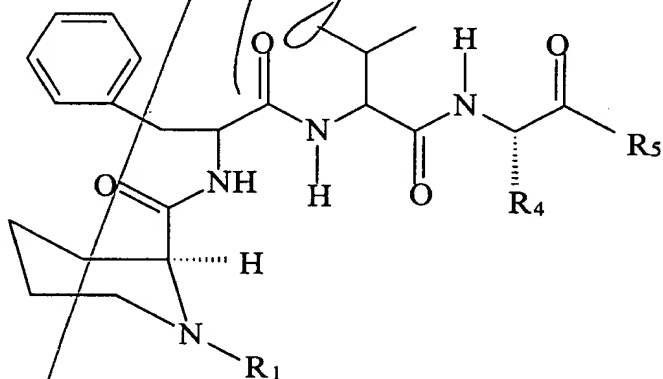
and

$R_2 =$ Phe-o-tert-butyl;



wherein

- | | |
|----------------------------------|--|
| $R_1 = m\text{-OCH}_3\text{Ph,}$ | $R_3 = \text{Val-o-tert-butyl;}$ |
| $R_1 = m\text{-OCH}_3\text{Ph,}$ | $R_3 = \text{Leu-o-tert-butyl;}$ |
| $R_1 = m\text{-OCH}_3\text{Ph,}$ | $R_3 = \text{Ileu-o-tert-butyl;}$ |
| $R_1 = m\text{-OCH}_3\text{Ph,}$ | $R_3 = \text{hexahydro-Phe-o-tert-butyl;}$ |
| $R_1 = m\text{-OCH}_3\text{Ph,}$ | $R_3 = \text{allylalanine-o-tert-butyl;}$ |
| $R_1 = \text{B-naphthyl;}$ | $R_3 = \text{Val-o-tert-butyl;}$ |



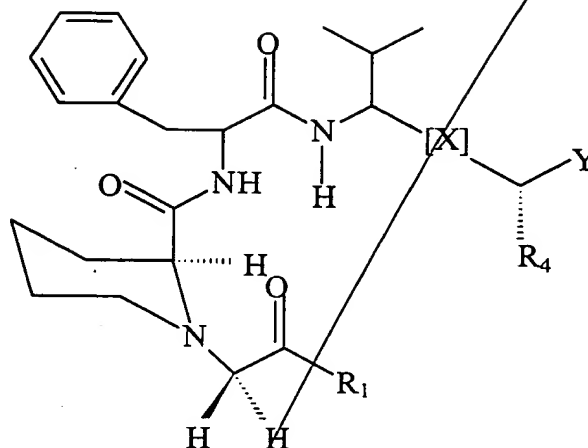
wherein

- $R_1 = \text{CH}_2(\text{CO})-m\text{-OCH}_3\text{Ph}$
 $R_4 = \text{CH}_2\text{Ph}$
 $R_5 = \text{OCH}_3;$

or

- $R_1 = \text{CH}_2(\text{CO})-\text{B-naphthyl}$
 $R_4 = \text{CH}_2\text{Ph}$
 $R_5 = \text{OCH}_3;$

140



wherein

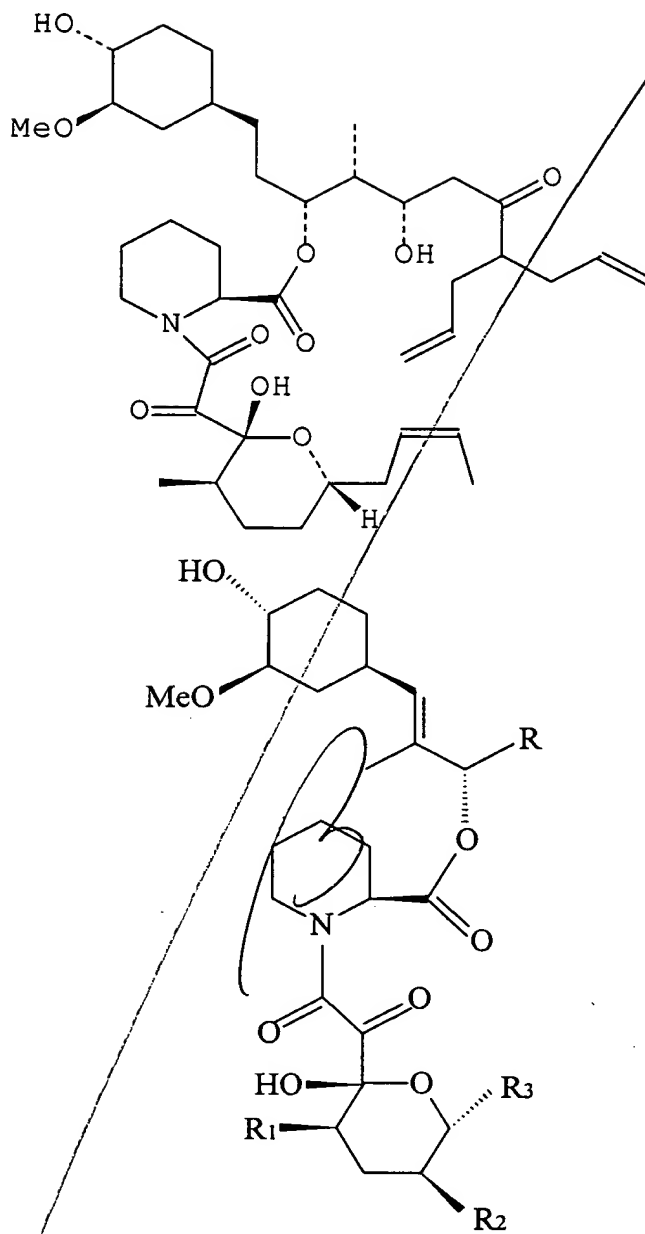
$R_1 = m\text{-OCH}_3\text{Ph}$
 $X = \text{trans-CH=CH}$
 $R_4 = \text{H}$
 $Y = \text{OC(o)Ph};$

$R_1 = \text{OCH}_3\text{Ph}$
 $X = \text{trans-CH=CH}$
 $R_4 = \text{H}$
 $Y = \text{OC(o)CF}_3;$

$R_1 = m\text{-OCH}_3\text{Ph}$
 $X = \text{trans-CH=CHI}$
 $R_4 = -$
 $Y = -;$

$R_1 = m\text{-OCH}_3\text{Ph}$
 $X = \text{trans-CH=CH}$
 $R_4 = \text{H}$
 $Y = \text{OCH}_2\text{CH=CH}_2;$

$R_1 = m\text{-OCH}_3\text{Ph}$
 $X = \text{C=O}$
 $R_4 = \text{H}$
 $Y = \text{Ph};$



wherein

$R_1 = H,$ $R_2 = OMe,$ and $R_3 = CH_2OMe;$
 $R_1 = H,$ $R_2 = H,$ and $R_3 = H;$
 $R_1 = Me,$ $R_2 = H,$ and $R_3 = H;$

(E)-3-(3,4-dichlorophenyl)-2-propenyl 1-(3,3-dimethyl-2-oxopentanoate)-2-piperidinecarboxylate;

(E)-3-(3,4,5-trimethoxyphenyl)-2-propenyl 1-(3,3-

dimethyl-2-oxopentanoyl)-2-piperidinecarboxylate;
(E)-3-phenyl-2-propenyl 1-(3,3-dimethyl-2-oxopentanoyl)-2-piperidinecarboxylate;
(E)-3-((3-(2,5-dimethoxy)-phenylpropyl)phenyl)-2-propenyl 1-(3,3-dimethyl-2-oxopentanoyl)-2-piperidinecarboxylate;
4-(4-methoxyphenyl)butyl 1-(2-oxo-2-phenylacetyl)-2-piperidinecarboxylate;
3-phenylpropyl 1-(2-oxo-2-phenylacetyl)-2-piperidinecarboxylate;
3-(3-pyridyl)propyl 1-(2-oxo-2-phenylacetyl)-2-piperidinecarboxylate;
3-(3-pyridyl)propyl 1-(3,3-dimethyl-2-oxopentanoyl)-2-piperidinecarboxylate;
4-phenyl-1-(3-phenylpropyl)butyl 1-(3,3-dimethyl-2-oxopentanoyl)-2-piperidinecarboxylate;
4-(4-methoxyphenyl)butyl 1-(3,3-dimethyl-2-oxopentanoyl)-2-piperidinecarboxylate;
1-(4-methoxyphenethyl)-4-phenylbutyl 1-(3,3-dimethyl-2-oxopentanoyl)-2-piperidinecarboxylate;
3-(2,5-dimethoxyphenyl)propyl 1-(3,3-dimethyl-2-oxopentanoyl)-2-piperidinecarboxylate;
3-(1,3-benzodioxol-5-yl)propyl 1-(3,3-dimethyl-2-oxopentanoyl)-2-piperidinecarboxylate;
1-phenethyl-3-phenylpropyl 1-(3,3-dimethyl-2-oxopentanoyl)-2-piperidinecarboxylate;
4-(4-methoxyphenyl)butyl 1-(2-cyclohexyl-2-oxoacetyl)-

2-piperidinecarboxylate;
3-cyclohexylpropyl 1-(2-cyclohexyl-2-oxoacetyl)-2-
piperidinecarboxylate;
3-phenylpropyl 1-(2-cyclohexyl-2-oxoacetyl)-2-
piperidinecarboxylate;
3-cyclohexylpropyl 1-(3,3-dimethyl-2-oxobutanoyl)-2-
piperidinecarboxylate;
3-phenylpropyl 1-(3,3-dimethyl-2-oxobutanoyl)-2-
piperidinecarboxylate;
4-(4-methoxyphenyl)butyl 1-(3,3-dimethyl-2-
oxobutanoyl)-2-piperidinecarboxylate; and
4-phenyl-1-(3-phenylpropyl)butyl 1-(3,3-dimethyl-2-
oxobutanoyl)-2-piperidinecarboxylate; and

pharmaceutically acceptable salts, esters, and
15 solvates thereof.

11. A pharmaceutical composition which comprises:
(i) an effective amount of a pipecolic acid
derivative for treating a vision disorder,
20 improving vision, treating memory
impairment, or enhancing memory performance
in an animal; and
(ii) a pharmaceutically acceptable carrier.

25 12. The pharmaceutical composition of claim 11,
wherein the pipecolic acid derivative has an affinity
for an FKBP-type immunophilin.

13. The pharmaceutical composition of claim 12,
wherein the FKBP-type immunophilin is FKBP-12.

14. The pharmaceutical composition of claim 11,
5 wherein the pipecolic acid derivative is
immunosuppressive or non-immunosuppressive.

15. The pharmaceutical composition of claim 11,
wherein the vision disorder is selected from the group
10 consisting of: visual impairments; orbital disorders;
disorders of the lacrimal apparatus; disorders of the
eyelids; disorders of the conjunctiva; disorders of the
cornea; cataract; disorders of the uveal tract;
disorders of the retina; disorders of the optic nerve
15 or visual pathways; free radical induced eye disorders
and diseases; immunologically-mediated eye disorders
and diseases; eye injuries; and symptoms and
complications of eye disease, eye disorder, or eye
injury.

20

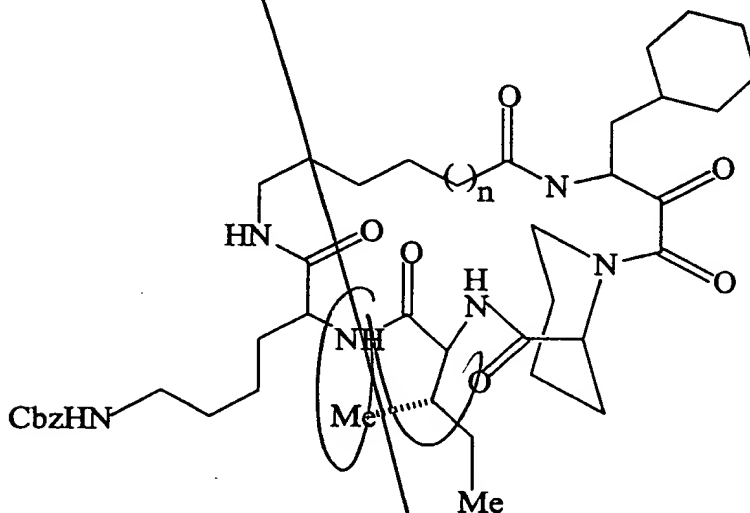
16. The pharmaceutical composition of claim 11,
wherein the pipecolic acid derivative is Way-124,666.

17. The pharmaceutical composition of claim 11,
25 wherein the pipecolic acid derivative is rapamycin.

18. The pharmaceutical composition of claim 11,
wherein the pipecolic acid derivative is Rap-Pa.

19. The pharmaceutical composition of claim 11,
wherein the pipecolic acid derivative is SLB-506.

20. The pharmaceutical composition of claim 11,
5 wherein the pipecolic acid derivative is selected from
the group consisting of:



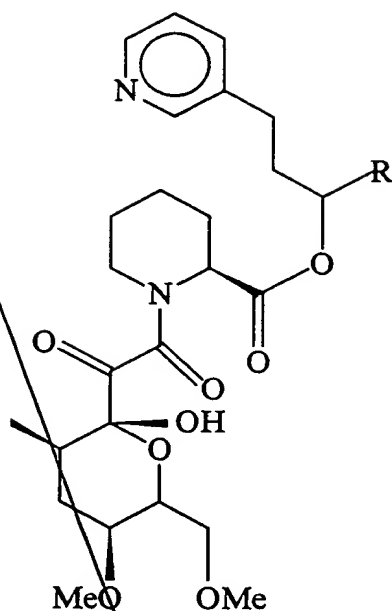
wherein n is 1; 2; or 3;

4-(4-methoxyphenyl)butyl (2S)-1-[2-(3,4,5-trimethoxyphenyl)acetyl]hexahydro-2-pyridinecarboxylate;

4-(4-methoxyphenyl)butyl (2S)-1-[2-(3,4,5-trimethoxyphenyl)acryloyl]hexahydro-2-pyridinecarboxylate;

4-(4-methoxyphenyl)butyl (2S)-1-[2-(3,4,5-trimethoxyphenyl)propanoyl]hexahydro-2-pyridinecarboxylate;

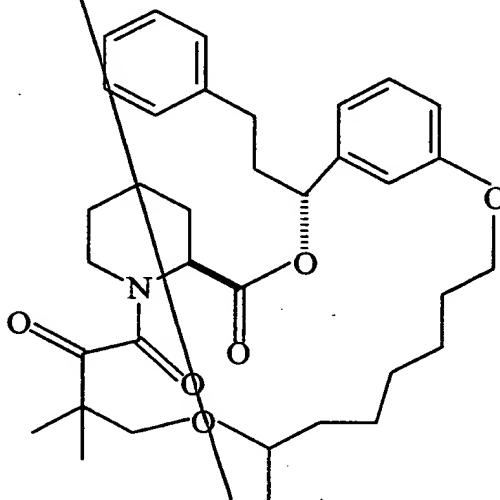
4-(4-methoxyphenyl)butyl (2S)-1-[2-oxo-2-(3,4,5-trimethoxyphenyl)acetyl]hexahydro-2-pyridinecarboxylate;



- 3-cyclohexylpropyl (2S)-1-(3,3-dimethyl-2-oxopentanoyl)hexahydro-2-pyridinecarboxylate;
- 3-phenylpropyl (2S)-1-(3,3-dimethyl-2-oxopentanoyl)hexahydro-2-pyridinecarboxylate;
- 3-(3,4,5-trimethoxyphenyl)propyl (2S)-1-(3,3-dimethyl-2-oxopentanoyl)hexahydro-2-pyridinecarboxylate;
- (1R)-2,2-dimethyl-1-phenethyl-3-butenyl (2S)-1-(3,3-dimethyl-2-oxopentanoyl)hexahydro-2-pyridinecarboxylate;
- (1R)-1,3-diphenylpropyl (2S)-1-(3,3-dimethyl-2-oxopentanoyl)hexahydro-2-pyridinecarboxylate;
- (1R)-1-cyclohexyl-3-phenylpropyl (2S)-1-(3,3-dimethyl-2-oxopentanoyl)hexahydro-2-pyridinecarboxylate;
- (1S)-1,3-diphenylpropyl (2S)-1-(3,3-dimethyl-2-oxopentanoyl)hexahydro-2-pyridinecarboxylate;
- (1S)-1-cyclohexyl-3-phenylpropyl (2S)-1-(3,3-dimethyl-2-oxopentanoyl)hexahydro-2-pyridinecarboxylate;

(22aS)-15,15-dimethylperhydropyrido[2,1-c][1,9,4]dioxazacyclononadecine-1,12,16,17-tetraone;

(24aS)-17,17-dimethylperhydropyrido[2,1-c][1,9,4]dioxazacyclohenicosine-1,14,18,19-tetraone;

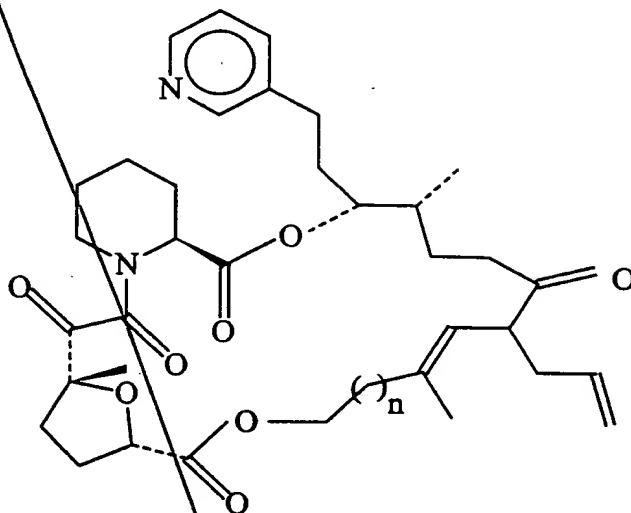


(3R,4R,23aS)-8-allyl-4,10-dimethyl-3-[2-(3-pyridyl)ethyl]-1,3,4,5,6,7,8,11,12,15,16,17,18,20,21,22,23,23a-octadecahydro-14H-pyrido[2,1-c][1,10,4]dioxazacycloicotine-1,7,14,17,18-pentaone;

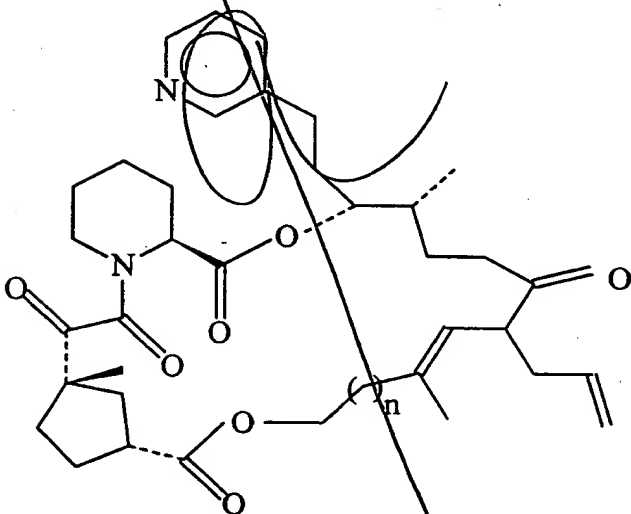
(3R,4R,24aS)-8-allyl-4,10-dimethyl-3-[2-(3-pyridyl)ethyl]-1,3,4,5,6,7,8,11,12,14,15,16,17,18,19,21,22,23,24,24a-icosahydropyrido[2,1-c][1,11,4]dioxazacyclohenicosine-1,7,14,18,19-pentaone;

(3R,4R,25aS)-8-allyl-4,10-dimethyl-3-[2-(3-pyridyl)ethyl]-1,3,4,5,6,7,8,11,12,15,16,17,18,19,20,22,23,24,25,25a-icosahydro-14H-pyrido[2,1-c]

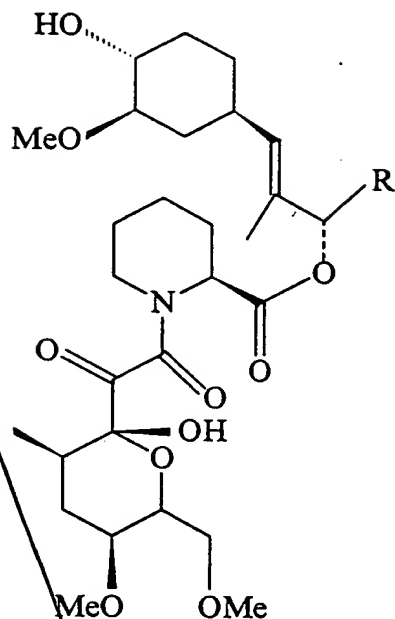
[1,12,4]dioxazacyclodocosine-1,7,14,19,20-pentaone;



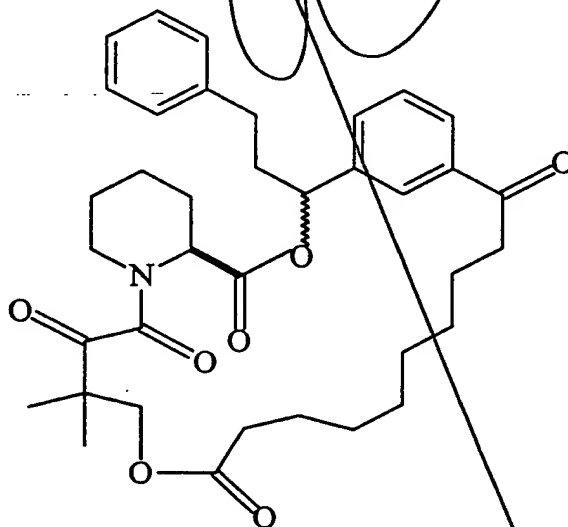
wherein n is 1; 2; or 3;



wherein n is 1; 2; or 3;



(1R)-1-(3-benzoylphenyl)-3-phenylpropyl (1R)-2-(3,3-dimethyl-2-oxopentanoyl)cyclohexane-1-carboxylate;
 (1R)-1-[3-(diallylcarbamoyl)phenyl]-3-phenylpropyl
 (1R)-2-(3,3-dimethyl-2-oxopentanoyl)cyclohexane-1-carboxylate;



ethyl 1-(2-oxo-3-phenylpropanoyl)-2-piperidinecarboxylate;

ethyl 1-pyruvoyl-2-piperidinecarboxylate;
ethyl 1-(2-oxobutanoyl)-2-piperidinecarboxylate;
ethyl 1-(3-methyl-2-oxobutanoyl)-2-
piperidinecarboxylate;
ethyl 1-(4-methyl-2-oxopentanoyl)-2-
piperidinecarboxylate;
ethyl 1-(3,3-dimethyl-2-oxobutanoyl)-2-
piperidinecarboxylate;
ethyl 1-(3,3-dimethyl-2-oxopentanoyl)-2-
piperidinecarboxylate;
4-[2-(ethyloxycarbonyl)piperidino]-2,2-dimethyl-3,4-
dioxobutyl acetate;
ethyl 1-[2-(2-hydroxytetrahydro-2H-2-pyranyl)-2-
oxoacetyl]-2-piperidinecarboxylate;
ethyl 1-[2-(2-methoxytetrahydro-2H-2-pyranyl)-2-
oxoacetyl]-2-piperidinecarboxylate;
ethyl 1-[2-(1-hydroxycyclohexyl)-2-oxoacetyl]-2-
piperidinecarboxylate;
ethyl 1-[2-(1-methoxycyclohexyl)-2-oxoacetyl]-2-
piperidinecarboxylate;
ethyl 1-(2-cyclohexyl-2-oxoacetyl)-2-
piperidinecarboxylate;
ethyl 1-(2-oxo-2-piperidinoacetyl)-2-
piperidinecarboxylate;
ethyl 1-[2-(3,4-dihydro-2H-6-pyranyl)-2-oxoacetyl]-2-
piperidinecarboxylate;
ethyl 1-(2-oxo-2-phenylacetyl)-2-piperidinecarboxylate;

ethyl 1-(4-methyl-2-oxo-1-thioxopentyl)-2-piperidinecarboxylate;

3-phenylpropyl 1-(2-hydroxy-3,3-dimethylpentanoyl)-2-piperidinecarboxylate;

(1R)-1-phenyl-3-(3,4,5-trimethoxyphenyl)propyl 1-(3,3-dimethylbutanoyl)-2-piperidinecarboxylate;

(1R)-1,3-diphenylpropyl 1-(benzylsulfonyl)-2-piperidinecarboxylate;

3-(3,4,5-trimethoxyphenyl)propyl 1-(benzylsulfonyl)-2-piperidinecarboxylate;

1-(2-[(2R,3R,6S)-6-[(2S,3E,5E,7E,9S,11R)-2,13-dimethoxy-3,9,11-trimethyl-12-oxo-3,5,7-tridecatrienyl]-2-hydroxy-3-methyltetrahydro-2H-2-pyranyl)-2-oxoacetyl)-2-piperidinecarboxylic acid;

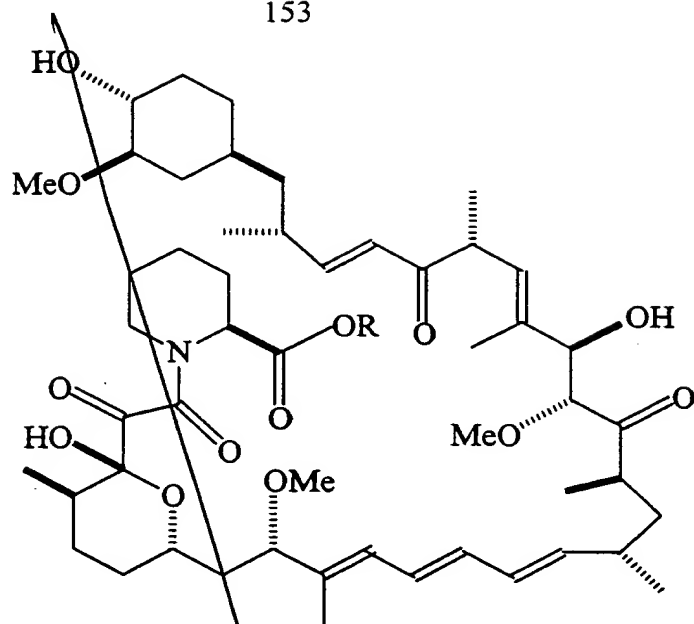
methyl 1-(2-[(2R,3R,6S)-6-[(2S,3E,5E,7E,9S,11R)-2,13-dimethoxy-3,9,11-trimethyl-12-oxo-3,5,7-tridecatrienyl]-2-hydroxy-3-methyltetrahydro-2H-2-pyranyl)-2-oxoacetyl)-2-piperidinecarboxylate;

isopropyl 1-(2-[(2R,3R,6S)-6-[(2S,3E,5E,7E,9S,11R)-2,13-dimethoxy-3,9,11-trimethyl-12-oxo-3,5,7-tridecatrienyl]-2-hydroxy-3-methyltetrahydro-2H-2-pyranyl)-2-oxoacetyl)-2-piperidinecarboxylate;

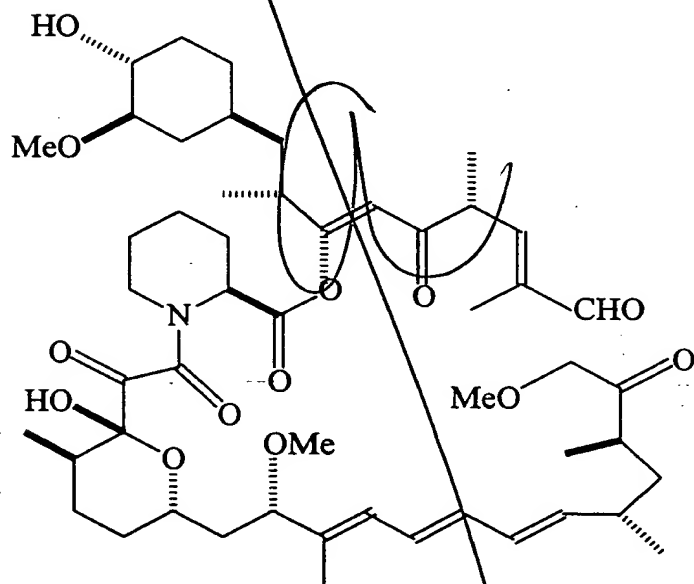
benzyl 1-(2-[(2R,3R,6S)-6-[(2S,3E,5E,7E,9S,11R)-2,13-dimethoxy-3,9,11-trimethyl-12-oxo-3,5,7-tridecatrienyl]-2-hydroxy-3-methyltetrahydro-2H-2-pyranyl)-2-oxoacetyl)-2-piperidinecarboxylate;

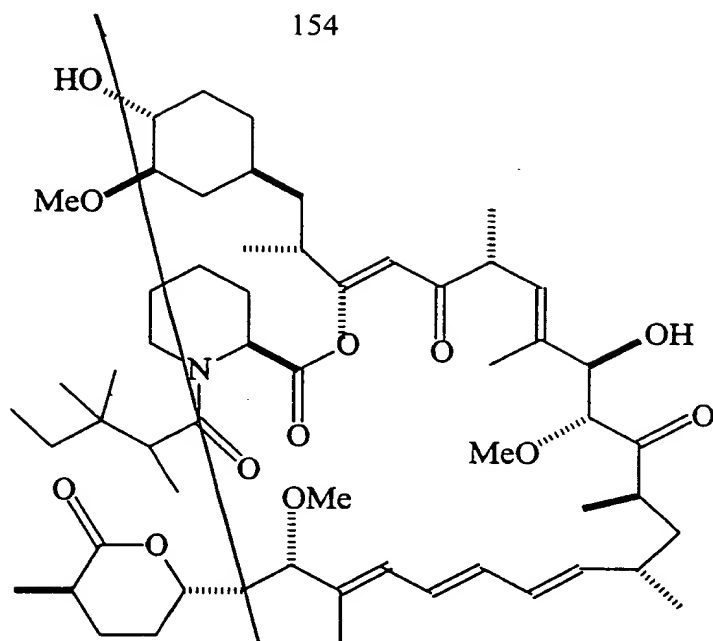
1-phenylethyl 1-(2-[(2R,3R,6S)-6-[(2S,3E,5E,7E,9S,11R)-

2,13-dimethoxy-3,9,11-trimethyl-12-oxo-3,5,7-tridecatrienyl]-2-hydroxy-3-methyltetrahydro-2H-2-pyranyl)-2-oxoacetyl)-2-piperidinecarboxylate;
(Z)-3-phenyl-2-propenyl 1-(2-[(2R,3R,6S)-6-[(2S,3E,5E,7E,9S,11R)-2,13-dimethoxy-3,9,11-trimethyl-12-oxo-3,5,7-tridecatrienyl]-2-hydroxy-3-methyltetrahydro-2H-2-pyranyl)-2-oxoacetyl)-2-piperidinecarboxylate;
3-(3,4-dimethoxyphenyl)propyl 1-(2-[(2R,3R,6S)-6-[(2S,3E,5E,7E,9S,11R)-2,13-dimethoxy-3,9,11-trimethyl-12-oxo-3,5,7-tridecatrienyl]-2-hydroxy-3-methyltetrahydro-2H-2-pyranyl)-2-oxoacetyl)-2-piperidinecarboxylate;
N2-benzyl-1-(2-[(2R,3R,6S)-6-[(2S,3E,5E,7E,9S,11R)-2,13-dimethoxy-3,9,11-trimethyl-12-oxo-3,5,7-tridecatrienyl]-2-hydroxy-3-methyltetrahydro-2H-2-pyranyl)-2-oxoacetyl)-2-piperidinecarboxylate;
N2-(3-phenylpropyl)-1-(2-[(2R,3R,6S)-6-[(2S,3E,5E,7E,9S,11R)-2,13-dimethoxy-3,9,11-trimethyl-12-oxo-3,5,7-tridecatrienyl]-2-hydroxy-3-methyltetrahydro-2H-2-pyranyl)-2-oxoacetyl)-2-piperidinecarboxylate;

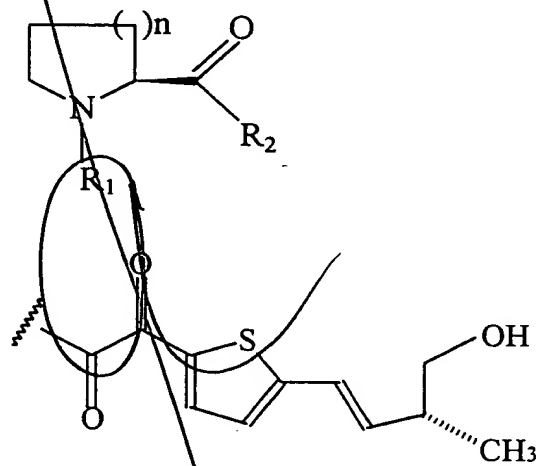


wherein R is methyl (Me); or benzyl (Bn);

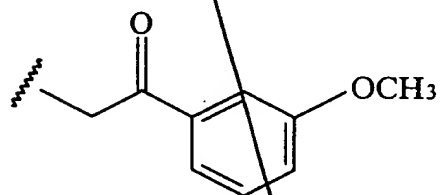




wherein $n = 2,$
 $R_1 =$

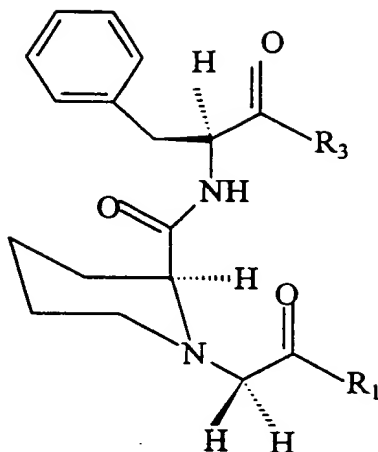


or



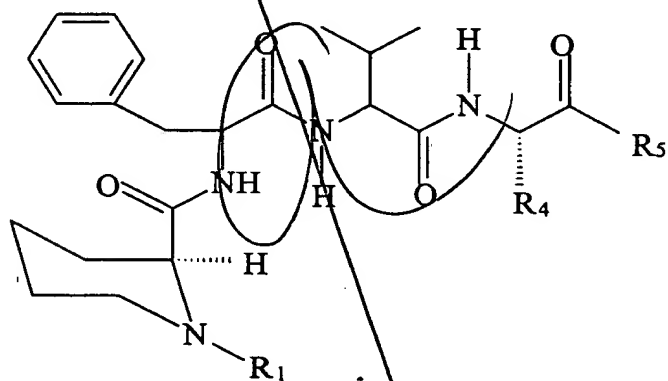
and

$R_2 = \text{Phe-o-tert-butyl};$



wherein

- | | |
|----------------------------------|--------------------------------------|
| $R_1 = m\text{-OCH}_3\text{Ph},$ | $R_3 = \text{Val-o-tert-butyl};$ |
| $R_1 = m\text{-OCH}_3\text{Ph},$ | $R_3 = \text{Leu-o-tert-butyl};$ |
| $R_1 = m\text{-OCH}_3\text{Ph},$ | $R_3 = \text{Ileu-o-tert-butyl};$ |
| $R_1 = m\text{-OCH}_3\text{Ph},$ | $R_3 = \text{hexahydro-Phe-o-tert-}$ |
| butyl; | |
| $R_1 = m\text{-OCH}_3\text{Ph},$ | $R_3 = \text{allylalanine-o-tert-}$ |
| butyl; | |
| $R_1 = \text{B-naphthyl};$ | $R_3 = \text{Val-o-tert-butyl};$ |

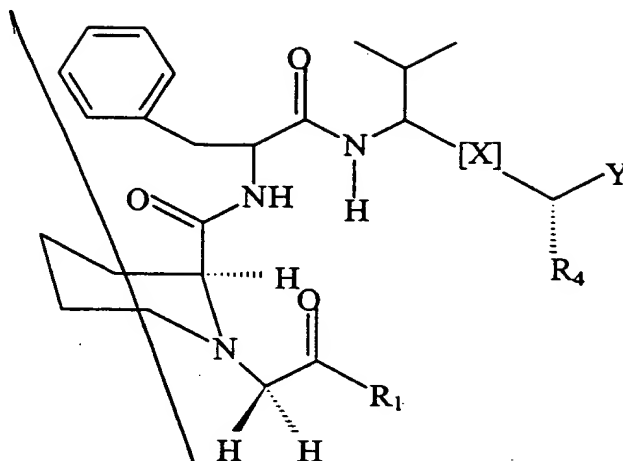


wherein

- $R_1 = \text{CH}_2(\text{CO})-m\text{-OCH}_3\text{Ph}$
 $R_4 = \text{CH}_2\text{Ph}$
 $R_5 = \text{OCH}_3;$

or

- $R_1 = \text{CH}_2(\text{CO})-\text{B-naphthyl}$
 $R_4 = \text{CH}_2\text{Ph}$
 $R_5 = \text{OCH}_3;$



wherein

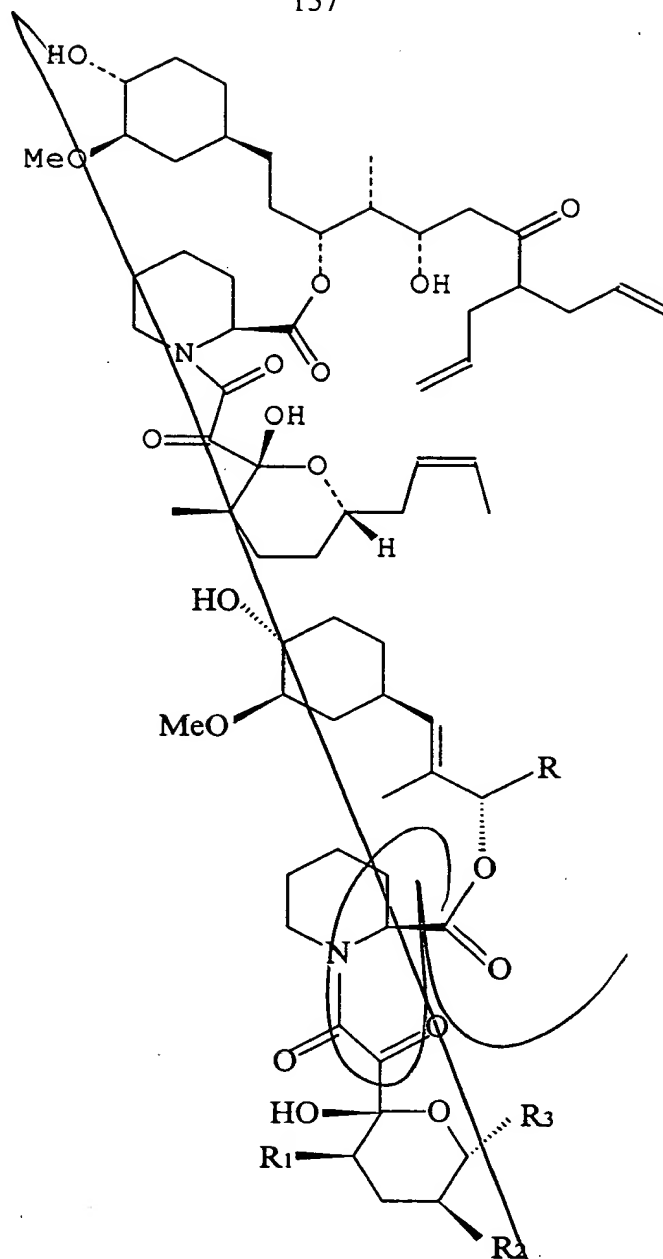
$R_1 = m\text{-OCH}_3\text{Ph}$
 $X = \text{trans-CH=CH}$
 $R_4 = \text{H}$
 $Y = \text{OC(o)Ph};$

$R_1 = \text{OCH}_3\text{Ph}$
 $X = \text{trans-CH=CH}$
 $R_4 = \text{H}$
 $Y = \text{OC(o)CF}_3;$

$R_1 = m\text{-OCH}_3\text{Ph}$
 $X = \text{trans-CH=CHI}$
 $R_4 = -$
 $Y = -;$

$R_1 = m\text{-OCH}_3\text{Ph}$
 $X = \text{trans-CH=CH}$
 $R_4 = \text{H}$
 $Y = \text{OCH}_2\text{CH=CH}_2;$

$R_1 = m\text{-OCH}_3\text{Ph}$
 $X = \text{C=O}$
 $R_4 = \text{H}$
 $Y = \text{Ph};$



wherein

$R_1 = H, \quad R_2 = OMe, \text{ and } R_3 = CH_2OMe;$
 $R_1 = H, \quad R_2 = H, \text{ and } R_3 = H;$
 $R_1 = Me, \quad R_2 = H, \text{ and } R_3 = H;$

(E)-3-(3,4-dichlorophenyl)-2-propenyl 1-(3,3-dimethyl-2-oxopentanoyl)-2-piperidinecarboxylate;

(E)-3-(3,4,5-trimethoxyphenyl)-2-propenyl 1-(3,3-

dimethyl-2-oxopentanoyl)-2-piperidinecarboxylate;
(E)-3-phenyl-2-propenyl 1-(3,3-dimethyl-2-oxopentanoyl)-2-piperidinecarboxylate;
(E)-3-((3-(2,5-dimethoxy)-phenylpropyl)phenyl)-2-propenyl 1-(3,3-dimethyl-2-oxopentanoyl)-2-piperidinecarboxylate;
4-(4-methoxyphenyl)butyl 1-(2-oxo-2-phenylacetyl)-2-piperidinecarboxylate;
3-phenylpropyl 1-(2-oxo-2-phenylacetyl)-2-piperidinecarboxylate;
3-(3-pyridyl)propyl 1-(2-oxo-2-phenylacetyl)-2-piperidinecarboxylate;
3-(3-pyridyl)propyl 1-(3,3-dimethyl-2-oxopentanoyl)-2-piperidinecarboxylate;
4-phenyl-1-(3-phenylpropyl)butyl 1-(3,3-dimethyl-2-oxopentanoyl)-2-piperidinecarboxylate;
4-(4-methoxyphenyl)butyl 1-(3,3-dimethyl-2-oxopentanoyl)-2-piperidinecarboxylate;
1-(4-methoxyphenethyl)-4-phenylbutyl 1-(3,3-dimethyl-2-oxopentanoyl)-2-piperidinecarboxylate;
3-(2,5-dimethoxyphenyl)propyl 1-(3,3-dimethyl-2-oxopentanoyl)-2-piperidinecarboxylate;
3-(1,3-benzodioxol-5-yl)propyl 1-(3,3-dimethyl-2-oxopentanoyl)-2-piperidinecarboxylate;
1-phenethyl-3-phenylpropyl 1-(3,3-dimethyl-2-oxopentanoyl)-2-piperidinecarboxylate;
4-(4-methoxyphenyl)butyl 1-(2-cyclohexyl-2-oxoacetyl)-

2-piperidinecarboxylate;
3-cyclohexylpropyl 1-(2-cyclohexyl-2-oxoacetyl)-2-
piperidinecarboxylate;
3-phenylpropyl 1-(2-cyclohexyl-2-oxoacetyl)-2-
piperidinecarboxylate;
3-cyclohexylpropyl 1-(3,3-dimethyl-2-oxobutanoyl)-2-
piperidinecarboxylate;
3-phenylpropyl 1-(3,3-dimethyl-2-oxobutanoyl)-2-
piperidinecarboxylate;
4-(4-methoxyphenyl)butyl 1-(3,3-dimethyl-2-
oxobutanoyl)-2-piperidinecarboxylate; and
4-phenyl-1-(3-phenylpropyl)butyl 1-(3,3-dimethyl-2-
oxobutanoyl)-2-piperidinecarboxylate; and

pharmaceutically acceptable salts, esters, and
solvates thereof.

5 ⁶ 21. The method of claim ⁹⁷ 1, which is for improving naturally-occurring vision in an animal, in the absence of any ophthalmologic disorder, disease, or injury.

10 ~~22. The pharmaceutical composition of claim 11, which is for improving naturally-occurring vision in an animal, in the absence of any ophthalmologic disorder, disease, or injury.~~

15 ⁷ 23. The method of claim ⁹⁷ 1, wherein the ^{Compound} ~~pipicolic~~ acid derivative is administered to said animal in combination with an effective amount of one or more factor(s) useful in treating vision disorders, improving vision, treating memory impairment, or enhancing memory performance in an animal.

20 ⁸ 24. The method of claim ⁷ 23, wherein the one or more factor(s) is/are selected from the group consisting of immunosuppressants for treating autoimmune, inflammatory, and immunologically-mediated disorders; wound healing agents for treating wounds
25 resulting from injury or surgery; antiglaucomatous medications for treating abnormally elevated intraocular pressure; neurotrophic factors and growth

factors for treating neurodegenerative disorders or stimulating neurite outgrowth; compounds effective in limiting or preventing hemorrhage or neovascularization for treating macular degeneration; and antioxidants for treating oxidative damage to eye tissues.

25. The pharmaceutical composition of claim 11, wherein the pipecolic acid derivative is administered to said animal in combination with an effective amount of one or more factor(s) useful in treating vision disorders, improving vision, treating memory impairment, or enhancing memory performance in an animal.

26. The pharmaceutical composition of claim 25, wherein the one or more factor(s) is/are selected from the group consisting of immunosuppressants for treating autoimmune, inflammatory, and immunologically-mediated disorders; wound healing agents for treating wounds resulting from injury or surgery; antiglaucomatous medications for treating abnormally elevated intraocular pressure; neurotrophic factors and growth factors for treating neurodegenerative disorders or stimulating neurite outgrowth; compounds effective in limiting or preventing hemorrhage or neovascularization for

126

~~regeneration~~
~~damage to~~

Add C17

$\frac{1}{\sqrt{2}} \begin{pmatrix} 1 & i \\ 1 & -i \end{pmatrix}$	$\frac{1}{\sqrt{2}} \begin{pmatrix} 1 & 1 \\ i & -i \end{pmatrix}$	$\frac{1}{\sqrt{2}} \begin{pmatrix} 1 & -1 \\ i & i \end{pmatrix}$	$\frac{1}{\sqrt{2}} \begin{pmatrix} 1 & i \\ -1 & -i \end{pmatrix}$
$\frac{1}{\sqrt{2}} \begin{pmatrix} 1 & -i \\ 1 & i \end{pmatrix}$	$\frac{1}{\sqrt{2}} \begin{pmatrix} 1 & -1 \\ -i & i \end{pmatrix}$	$\frac{1}{\sqrt{2}} \begin{pmatrix} 1 & 1 \\ -i & -i \end{pmatrix}$	$\frac{1}{\sqrt{2}} \begin{pmatrix} 1 & i \\ -1 & i \end{pmatrix}$
$\frac{1}{\sqrt{2}} \begin{pmatrix} 1 & i \\ -1 & i \end{pmatrix}$	$\frac{1}{\sqrt{2}} \begin{pmatrix} 1 & 1 \\ i & i \end{pmatrix}$	$\frac{1}{\sqrt{2}} \begin{pmatrix} 1 & -1 \\ i & -i \end{pmatrix}$	$\frac{1}{\sqrt{2}} \begin{pmatrix} 1 & -i \\ 1 & -1 \end{pmatrix}$
$\frac{1}{\sqrt{2}} \begin{pmatrix} 1 & -i \\ 1 & -1 \end{pmatrix}$	$\frac{1}{\sqrt{2}} \begin{pmatrix} 1 & -1 \\ -i & -i \end{pmatrix}$	$\frac{1}{\sqrt{2}} \begin{pmatrix} 1 & 1 \\ -i & i \end{pmatrix}$	$\frac{1}{\sqrt{2}} \begin{pmatrix} 1 & i \\ 1 & 1 \end{pmatrix}$